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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,675

09/28/2006

Takeo Senoo

0033-1106PUS1

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2292 7590 07/28/2009
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EXAMINER

CHIESA, RICHARD L

ART UNIT

PAPER NUMBER

1797

NOTIFICATION DATE

DELIVERY MODE

07/28/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/594,675	Applicant(s) SENOO, TAKEO	
	Examiner Richard L. Chiesa	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on June 2, 2009 has been entered.

Claim Rejections - 35 USC § 102/103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claim 1 is again rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hanke et al as applied in paragraph 5 on pages 3 and 4 of the last Office action (mailed March 2, 2009).
4. Claims 4 -7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanke et al in view of Woltman as applied in paragraph 6 on page 4 of the last Office action (mailed March 2, 2009).
5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 4 in paragraph 4 above, and further in view of U.S. Patent No. 2,486,019 to Goddard. The prior art, as described above in paragraph 4, discloses a gas-liquid contact water purifying apparatus substantially as claimed with the possible exception of more than two air

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supply outlets. In any case, Goddard (note ref. num. 71, 81, Figures 9-16, col. 1, lines 1-12, col. 4, lines 28-41, col. 4, line 71 to col. 5, line 14) teaches the well-known use of a plurality of air supply outlets in a gas-liquid contact apparatus for the purpose of maximizing the rate of flow through the apparatus. It therefore would have been obvious to one having ordinary skill in the art to employ a plurality of air outlets in the Hanke et al and Woltman gas-liquid contact apparatus in order to increase flow rates as taught by Goddard.

Response to Arguments

6. Applicant's arguments filed on June 2, 2009 have been fully considered but they are not persuasive. Contrary to applicant's comments, Hanke et al evidently show in Figure 14 a nozzle opening having at least two parallel line segments apparently identical to applicant's Figure 2. Furthermore, applicant's remarks concerning the Woltman reference appear to be erroneous. Woltman was not relied upon to teach nozzle opening line segments but rather to teach the routine use of a plurality of air outlets facing line segments of the nozzle openings. Note that Woltman's air outlets 20, 38 face nozzle outlet opening 30 in Figure 2 in virtually the same manner as applicant's Figure 3 device. Finally, despite applicant's assertion to the contrary, the examiner has indeed supplied rationale for the obviousness rejection of Hanke et al and Woltman. This is because the examiner indicated in the last Office action that employing Woltman's teachings in the Hanke et al gas-liquid contact apparatus would achieve an advantageous fanning effect and as Woltman explains in col. 5, lines 54-62 such an effect enhances the dispersal and distribution of air throughout the body of the water being treated.

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Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard L. Chiesa whose telephone number is (571) 272-1154.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane S. Smith, can be reached at (571) 272-1166.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (571) 272-1700.

Facsimile correspondence must be transmitted through (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Richard L. Chiesa

July 20, 2009

**/Richard L. Chiesa/
Primary Examiner
Art Unit 1797**